

**Flood Control Project Maintenance
Levee Inspections**

Fall 2016 Levee Maintenance Deficiency Summary Report

Overall LMA & Unit Ratings, including DWR Erosion Survey

San Joaquin River Basin

| RD0001 | Overall LMA Rating | Total LMA Miles | | | | | | |
|---|------------------------|-----------------|--------------|-------------|-------------|---------|------------------------------|---------|
| Reclamation District No. 0001 Union Island | M | 1.14 | | | | | | |
| Rated Item | Maintenance Deficiency | | | | Enforcement | | Design & System Obsolescence | |
| | M Miles | U Miles | M + 4U Miles | Threshold % | M Miles | U Miles | M Miles | U Miles |
| <i>Earthen Levee</i> | | | | | | | | |
| Animal Control | | 0.04 | 0.16 | 14.06% | | | | |
| Slope Stability | 0.02 | | 0.02 | 1.76% | | | | |
| Erosion / Bank Caving | 0.01 | | 0.01 | 0.88% | | | | |
| Flood Preparedness & Training | 0.01 | | 0.01 | 0.88% | | | | |
| <i>Supplemental</i> | | | | | | | | |
| DWR Erosion Survey | 0.01 | | 0.01 | 0.88% | | | | |
| DWR UCIP Field Study | | | | | 0.01 | | | |
| <i>LMA Totals:</i> | 0.05 | 0.04 | 0.21 | 18.45% | 0.01 | 0.00 | 0.00 | 0.00 |

| Unit No. 01 Old River RB | Overall Unit Rating | Total Unit Miles | | | | | | |
|---------------------------------|------------------------|------------------|--------------|-------------|-------------|---------|------------------------------|---------|
| RD0001 | M | 1.14 | | | | | | |
| Rated Item | Maintenance Deficiency | | | | Enforcement | | Design & System Obsolescence | |
| | M Miles | U Miles | M + 4U Miles | Threshold % | M Miles | U Miles | M Miles | U Miles |
| <i>Earthen Levee</i> | | | | | | | | |
| Animal Control | | 0.04 | 0.16 | 14.06% | | | | |
| Slope Stability | 0.02 | | 0.02 | 1.76% | | | | |
| Erosion / Bank Caving | 0.01 | | 0.01 | 0.88% | | | | |
| <i>Supplemental</i> | | | | | | | | |
| DWR Erosion Survey | 0.01 | | 0.01 | 0.88% | | | | |
| DWR UCIP Field Study | | | | | 0.01 | | | |
| <i>Unit Totals:</i> | 0.04 | 0.04 | 0.20 | 17.57% | 0.01 | 0.00 | 0.00 | 0.00 |

**Flood Control Project Maintenance
Levee Inspections**
LMA District Cover Sheet
Fall 2016 Levee Inspection Results

Reclamation District No. 0001 Union Island

| | Spring (March - May) | Summer ** (June - August) | Fall (September - November) | Winter ** (December - February) |
|----------------------------------|-------------------------|------------------------------|--------------------------------|------------------------------------|
| † Overall LMA Rating (Fall Only) | | | M | |

** Non-receipt of Summer or Winter Inspection
Reports may effect overall annual rating.

† **SPRING INSPECTIONS:** Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indication of risk.

Comments

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**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Fall 2016 Levee Inspection Results

Reclamation District No. 0001 Union Island

| Waterway | | | Bank | Unit Miles |
|--|-------------------------|---------------------------|--------------------------------|---------------------------------|
| Unit No. 01 Old River | | | Right | 1.14 |
| | Spring (March - May) | Summer (June - August) | (September - November) Fall | Winter (December - February) |
| Unit Maintenance Rating (Fall Only) | | | M | |
| Date of Inspection | 3/15/2016 - 3/15/2016 | | 10/13/2016 - 10/13/2016 | |
| DWR Inspector | Maksim Khashchuk | | Maksim Khashchuk | |
| Accompanied By | | | | |

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2016

Reclamation District No. 0001 Union Island

| Waterway | Bank | Unit Miles | Inspection Start/End | Inspector |
|-----------------------|-------|------------|--------------------------|------------------|
| Unit No. 01 Old River | Right | 1.14 | 10/13/2016 10/13/2016 | Maksim Khashchuk |

| | | | | | |
|--|-------------------------------|--------------|------------------------|------------|-----|
| LM Start | | Rating ** | M | Issue No. | 6 |
| LM End | | Issue Type + | Ma | Location * | N/A |
| Category | Earthen Levee | | GPS Latitude/Longitude | | |
| | | | Start | End | |
| Item | Flood Preparedness & Training | | | ° | ° |
| | | | | ° | ° |
| DWR ID | DWR_RD0001_01_s_2013_6 | | | | |
| Comment Code | | | | | |
| | | | | | |
| Inspector Comment | | | | | |
| The LMA has not attended a flood fight training class in the past few years. They do have an emergency plan. | | | | | |

No Photos

| | | | | | |
|---|--------------------------------|--------------|------------------------|------------|-----|
| LM Start | | Rating ** | A | Issue No. | 8 |
| LM End | | Issue Type + | Ma | Location * | N/A |
| Category | Earthen Levee | | GPS Latitude/Longitude | | |
| | | | Start | End | |
| Item | Emergency Supplies & Equipment | | | ° | ° |
| | | | | ° | ° |
| DWR ID | DWR_RD0001_01_s_2013_8 | | | | |
| Comment Code | | | | | |
| | | | | | |
| Inspector Comment | | | | | |
| The LMA has emergency supplies on-site. | | | | | |

No Photos

| | | | | | |
|---|----------------------------------|--------------|------------------------|------------|-----|
| LM Start | | Rating ** | A | Issue No. | 9 |
| LM End | | Issue Type + | Ma | Location * | N/A |
| Category | Earthen Levee | | GPS Latitude/Longitude | | |
| | | | Start | End | |
| Item | Operations & Maintenance Manuals | | | ° | ° |
| | | | | ° | ° |
| DWR ID | DWR_RD0001_01_s_2013_9 | | | | |
| Comment Code | | | | | |
| | | | | | |
| Inspector Comment | | | | | |
| The LMA has a copy of the O&M Manual available at the office. | | | | | |

No Photos

| | | | |
|--|--|---|---|
| * Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown | ** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable | N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain | + Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement |
|--|--|---|---|

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2016

Reclamation District No. 0001 Union Island

| Waterway | Bank | Unit Miles | Inspection Start/End | Inspector |
|-----------------------|-------|------------|--------------------------|------------------|
| Unit No. 01 Old River | Right | 1.14 | 10/13/2016 10/13/2016 | Maksim Khashchuk |

| | | | | | |
|--|--------------------|--------------|----|------------------------|---------------|
| LM Start | 0.00 | Rating ** | M | Issue No. | 1 |
| LM End | 0.00 | Issue Type + | Ma | Location * | WS |
| Category | Supplemental | | | GPS Latitude/Longitude | |
| | | | | Start | End |
| Item | DWR Erosion Survey | | | 37.822306 ° | 37.822306 ° |
| | | | | -121.375304 ° | -121.375304 ° |
| DWR ID | | | | | |
| Comment Code | | | | | |
| | | | | | |
| Inspector Comment | | | | | |
| 07/25/2016: No significant change observed. | | | | | |
| 06/25/2015: No significant change observed. | | | | | |
| 07/02/2014: No significant change observed. | | | | | |
| 08/20/2013: No significant change at this site. | | | | | |
| 08/07/2012: The erosion is at the confluence of Old River and one of its tributary. [2016 Site ID:RD0001U01RM31.4] | | | | | |

| | | | | | |
|----------|-------------|--------------|----|------------|-----------------|
| LM Start | 0.00 | Rating ** | M | Issue No. | 1 (cont) |
| LM End | 0.00 | Issue Type + | Ma | Location * | WS |

Photo 1 of 3 : SJR2016_RD0001U01RM31.4_1.jpg



Upstream view of the erosion.

Photo 2 of 3 : SJR2016_RD0001U01RM31.4_2.jpg



Close view of the erosion.

| | | | | | |
|----------|-------------|--------------|----|------------|-----------------|
| LM Start | 0.00 | Rating ** | M | Issue No. | 1 (cont) |
| LM End | 0.00 | Issue Type + | Ma | Location * | WS |

Photo 3 of 3 : SJR2016_RD0001U01RM31.4_4.jpg



Front view of the site. Note the large tree on site.

*** Location**

LS : Land Side N/A : Not Applicable
WS : Water Side
CR : Crown

**** Rating**

A : Acceptable N : Not Inspected/Rated
M : Minimally Acceptable C : Corrected
U : Unacceptable A/W : Acceptable but Monitor & Maintain


+ Issue Type

Ma : Maintenance Deficiency
Ob : Design & System Obsolescence
En : Enforcement

Levee Inspection Report By Mile - Fall 2016

| Waterway | Bank | Unit Miles | Inspection Start/End | Inspector |
|-----------------------|-------|------------|--------------------------|---------------------|
| Unit No. 01 Old River | Right | 1.14 | 10/13/2016 10/13/2016 | Maksim Khashchuk |

Photo 1 of 1 : FA_2001_RD0001_23_12_20160914_00009.jpg



View of the tree stump on the waterside levee slope.

Photo 1 of 1 : FA_2016_RD0001_23_11_20160914_00008.jpg



View of the riprap stockpiled on the levee crown.

Photo 1 of 1 : FA_2016_RD0001_23_14_20160914_00010.jpg



View of the large rodent hole on the landside levee slope.

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Levee Inspection Report By Mile - Fall 2016

| Waterway | Bank | Unit Miles | Inspection Start/End | Inspector |
|-----------------------|-------|------------|--------------------------|------------------|
| Unit No. 01 Old River | Right | 1.14 | 10/13/2016 10/13/2016 | Maksim Khashchuk |

Photo 1 of 1 : FA_2016_RD0001_23_10_20160914_00007.jpg



View of the large rodent hole on the landside levee slope.

Photo 1 of 1 : FA_2016_RD0001_23_5_20160914_00005.jpg



View of the vertical cut at the landside levee toe.

Photo 1 of 1 : FA_2016_RD0001_23_7_20160914_00006.jpg



View of the erosion on the landside levee slope.

| * Location | ** Rating | + Issue Type |
|---|---|--|
| LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown | A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain | Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement |

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2016

Reclamation District No. 0001 Union Island

| Waterway | Bank | Unit Miles | Inspection Start/End | Inspector |
|-----------------------|-------|------------|--------------------------|------------------|
| Unit No. 01 Old River | Right | 1.14 | 10/13/2016 10/13/2016 | Maksim Khashchuk |

| | | | | | |
|--|----------------------|--------------|----|------------------------|---------------|
| LM Start | 0.85 | Rating ** | M | Issue No. | 17 |
| LM End | 0.85 | Issue Type + | En | Location * | LS |
| Category | Supplemental | | | GPS Latitude/Longitude | |
| | | | | Start | End |
| Item | DWR UCIP Field Study | | | 37.814601 ° | 37.814601 ° |
| | | | | -121.382509 ° | -121.382509 ° |
| DWR ID | | | | | |
| Comment Code | | | | | |
| | | | | | |
| Inspector Comment | | | | | |
| FS_ID:41600 | | | | | |
| DS_ID:22691 | | | | | |
| EP_NO: N/A | | | | | |
| Repair Type: Non-Urgent | | | | | |
| Crossing Status: Found | | | | | |
| UCIP Comments: - 2" electric conduit on WS- pipe exposed on both sides.- power pole on LS. - erosion on WS hinge near walkway. | | | | | |
| FIELD_STRUCT_DESC: 14-inch pipe and 2-inch electric conduit through the levee, 6.0 feet below the crown, pump on pile structure in the stream, air valve on the landward shoulder, 30-inch concrete standpipe on the landward toe. O&M Manual LSJR 8, 1968 | | | | | |
| FS Date: 9/12/2013 | | | | | |

| | | | | | |
|----------|-------------|--------------|----|------------|------------------|
| LM Start | 0.85 | Rating ** | M | Issue No. | 17 (cont) |
| LM End | 0.85 | Issue Type + | En | Location * | LS |

Photo 1 of 2 : UCIP_FA_2016_41600_36004.jpg



WS view: exposed pipe, walkway, and pump on pile structure. Soil erosion on levee hinge near walkway.

Photo 2 of 2 : UCIP_FA_2016_41600_36003.jpg



WS view: exposed pipe, walkway, and electric conduit under walkway. Rock revetment on lower levee slope.

| | | | |
|--|--|---|---|
| * Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown | ** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable | N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain | + Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement |
|--|--|---|---|

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2016

Reclamation District No. 0001 Union Island

| Waterway | Bank | Unit Miles | Inspection Start/End | Inspector |
|-----------------------|-------|------------|--------------------------|------------------|
| Unit No. 01 Old River | Right | 1.14 | 10/13/2016 10/13/2016 | Maksim Khashchuk |

| | | | | | |
|---|------------------------|--------------|----|------------------------|---------------|
| LM Start | 1.08 | Rating ** | M | Issue No. | 3 |
| LM End | 1.08 | Issue Type + | Ma | Location * | LS |
| Category | Earthen Levee | | | GPS Latitude/Longitude | |
| | | | | Start | End |
| Item | Slope Stability | | | 37.812023 ° | 37.812023 ° |
| | | | | -121.383961 ° | -121.383961 ° |
| DWR ID | DWR_RD0001_01_s_2016_3 | | | | |
| Comment Code | | | | | |
| S3 : Repair the levee slope damaged by vehicle traffic and prevent access where possible. | | | | | |
| Inspector Comment | | | | | |
| Repair slope damaged by vehicle by placing and compacting acceptable levee material. | | | | | |

Photo 1 of 1 : FA_2016_RD0001_23_3_20160914_00003.jpg



View of the landside slope damaged by farm equipment.

| | | | |
|--|--|---|---|
| * Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown | ** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable | N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain | + Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement |
|--|--|---|---|